MULTIMEDIA UNIVERSITY ®

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2015/2016

PIM0245 – INTRODUCTION TO MULTIMEDIA TECHNOLOGY

(Foundation in Information Technology)

3 JUNE 2016
9.00 a.m – 11.00 a.m
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of **FIVE** pages (excluding the cover page).
2. Answer **SEVEN** out of **EIGHT** questions. Marks will be given for the first seven questions answered.
3. Write your answers in the Answer Booklet provided.

Instructions: Answer **SEVEN** out of **EIGHT** questions. Write your answers in the Answer Booklet.

QUESTION 1 [10 Marks]

As a manager for a game company, you are considering using multimedia product to market your company's product. Evaluating multimedia product will help developers to develop an improved product and will help users in making decisions. Based on this situation, answer the following questions.

a. Name and briefly discuss **FOUR (4)** developer's perspectives that need to be considered when evaluating multimedia products.

(4 marks)

b. Name **THREE (3)** file formats that can be used to deliver animation for a multimedia product.

(3 marks)

c. Is file compression necessary when preparing animation files for the web? Why?

(3 marks)

QUESTION 2 [10 Marks]

a. Basically, there are four stages in multimedia development process. Discuss any **TWO (2)** stages.

(4 marks)

b. Explain the **THREE (3)** methods used in stage 4 of the multimedia development process.

(3 marks)

c. What is storyboard? Give **TWO (2)** reasons why a storyboard can help to produce a good multimedia product.

(3 marks)

Continued...

QUESTION 3 [10 Marks]

You and your team members are being instructed to involve in the development of a multimedia montage. There are a few elements that you need to decide on, for example the text and audio that can be incorporated into this project.

a. You need to decide whether to use san-serif or serif typefaces to improve the readability factor of the text used in the project. What is the difference between serif and san-serif? Identify which typeface is suitable to be used as body text and headlines for both printed page and computer display.

(3 marks)

b. Give **TWO (2)** examples of font styles that can be used in text. Based on the **Image 1** below, give the correct terms used to describe the sections of font.

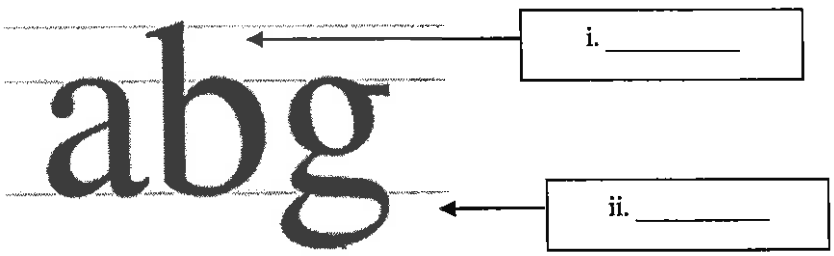

Image 1

(2 marks)

c. Suggest **FIVE (5)** tips a designer can use to design a multimedia interface.

(5 marks)

QUESTION 4 [10 Marks]

a. In digital audio, a sample of sound is recorded and stored as digital information in bits and bytes. There are three characteristics that determine the quality of an audio. List and explain briefly any **TWO (2)** of the characteristics.

(3 marks)

b. There are many arguments on the types of audio that should be used in a multimedia project. Convince your team to use digital audio compared to analog in the project by giving **FOUR (4)** advantages of using it.

(4 marks)

Continued...

c. Calculate the estimated file size in kilobyte using attributes given below:

File name	Time	No. of channels	Sampling Rate	Sound resolution
file_version1	1 minute	Stereo	44,100 Hz	16-bit

(3 marks)

QUESTION 5 [10 Marks]

Lantera Creative is a multimedia company that has been assigned to design a web-based education system to their customers. Based on this scenario, answer questions below:

a. Multimedia products are very expensive, difficult and time consuming to develop. Briefly discuss **THREE (3)** reasons why developing multimedia is worthwhile.

(3 marks)

b. Graphics or images are the backbone of any multimedia product. Lantera Creative plan to use 24 bit color depth images. Before they implement this, they need to estimate the size of these images on memory. To estimate, they created a banner with the size of 200 pixel width and 300 pixel height. Based on this situation, answer the following questions:

(4 marks)

i. Calculate number of color based on color depth used.
ii. Calculate image resolution.
iii. Calculate the image size in KB.

c. Bitmaps and vector are the two types of computer graphics. Explain what will be the effect if the graphic designer of Lantera Creative resizes a bitmap image to a bigger or a smaller size. Support your answer with one reason each.

(3 marks)

QUESTION 6 [10 Marks]

a. Besides being able to produce good quality of a digital video, file size has always been the main concern. Digital video takes up a lot of space and the only way to overcome that is through video compression techniques. Explain briefly any **THREE (3)** formats used in digital video production.

(3 marks)

Continued...

b. Authoring tools are considered essentials in the development of any multimedia project. Therefore, developer must choose the right tool that best fits the job. Define and briefly explain **THREE (3)** different features that an authoring tool should have to perform certain tasks.

(3 marks)

c. There are various multimedia authoring tools which can be categorized into several different groups. Write the **CORRECT** type or category of authoring tools to the explanation given below.

(4 marks)

Example:

Explanation	Type / Category
A) Elements are organized as pages of a book	**i. Page- based Authoring Tools**

Explanation	Type / Category
A) Users are allowed to jump to any page in the structured navigation pattern.	i. _____
B) Elements and events are organized along a timeline	ii. _____
C) Elements are triggered at a given time or location in the sequence of events.	iii. _____
D) Sequence events and activities can be built by placing icons on a flow line without any scripting.	iv. _____

QUESTION 7 [10 Marks]

a. List and explain **TWO (2)** stages of software testing.

(2 marks)

b. Interface is the first thing users will see when a multimedia application is executed. It can be categorized into several components. State and give **FOUR (4)** of the components.

(6 marks)

c. Describe **TWO (2)** navigational structures for organizing a multimedia product or presentation.

(2 marks)

Continued...

QUESTION 8 [10 Marks]

Video is another element of multimedia that is commonly incorporated in today's applications to optimize the presentation of information for different audiences with different needs and expectation. Basically, video is just a series of frames that consists of pictures and sound which played back within it specific time.

a. Video signals are transmitted in several standards which is not easily interchangeable around the world. Identify and write the different characteristics for each of the standards listed in the table below.

Standards	PAL	NTSC	HDTV
No of lines			
Frame per second			

(3 marks)

b. Amy was assigned to produce and edit a 1.5 minutes video montage for her company. The estimated size of an audio file need to be included into the montage is 4.58 MB. Based on the information below, assist Amy to calculate the estimated size of the video montage that she will produce. Write your answer in MB.

Frame Rate	Frame size	Color depth
25	240 by 180	24-bit

(5 marks)

c. Name and briefly explain **TWO (2)** different methods used in producing animations.
(2 marks)

End of Paper